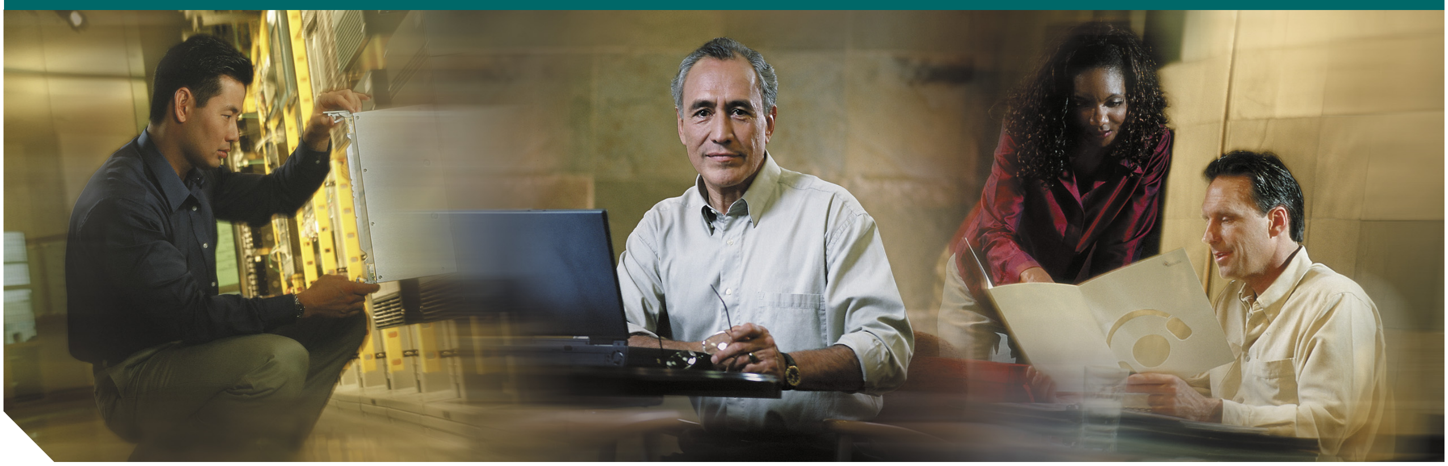
Quick Start Guide



Cisco 815 Integrated Services Router Cabling and Installation Quick Start Guide

INCLUDING LICENSE AND WARRANTY

1 Cisco 90-Day Limited Hardware Warranty Terms

There are special terms applicable to your hardware warranty and various services that you can use during the warranty period. Your formal Warranty Statement, including the warranties and license agreements applicable to Cisco software, is available on Cisco.com. Follow these steps to access and download the *Cisco Information Packet* and your warranty and license agreements from Cisco.com.

1. Launch your browser, and go to this URL:

   http://www.cisco.com/univercd/cc/td/doc/es_inpck/cetrans.htm

   The Warranties and License Agreements page appears.

2. To read the *Cisco Information Packet*, follow these steps:

   a. Click the **Information Packet Number** field, and make sure that the part number 78-5235-03A0 is highlighted.

   b. Select the language in which you would like to read the document.

   c. Click **Go**.

   The Cisco Limited Warranty and Software License page from the Information Packet appears.

   d. Read the document online, or click the **PDF** icon to download and print the document in Adobe Portable Document Format (PDF).

   Note You must have Adobe Acrobat Reader to view and print PDF files. You can download the reader from Adobe's website, http://www.adobe.com.

3. To read translated and localized warranty information about your product, follow these steps:

   a. Enter this part number in the Warranty Document Number field:

   78-5236-01C0

   b. Select the language in which you would like to read the document.

   c. Click **Go**.

   The Cisco warranty page appears.

   d. Review the document online, or click the **PDF** icon to download and print the document in Adobe Portable Document Format (PDF).

You can also contact the Cisco service and support website for assistance:

http://www.cisco.com/public/Support_root.shtml

Duration of Hardware Warranty

Ninety (90) days.

Replacement, Repair, or Refund Policy for Hardware

Cisco or its service center will use commercially reasonable efforts to ship a replacement part within ten (10) working days after receipt of a Return Materials Authorization (RMA) request. Actual delivery times can vary, depending on the customer location.

Cisco reserves the right to refund the purchase price as its exclusive warranty remedy.

To Receive a Return Materials Authorization (RMA) Number

Contact the company from whom you purchased the product. If you purchased the product directly from Cisco, contact your Cisco Sales and Service Representative.

Complete the information below, and keep it for reference:

Company product purchased from	
Company telephone number	
Product model number	
Product serial number	
Maintenance contract number	

Product Serial Number Location

You may need your product serial number when calling the Technical Assistance Center (TAC).

The serial number label for the Cisco 815 integrated services router is located on the back of the chassis, to the right of the power switch.

Cisco Product Identification Tool

The Cisco Product Identification (CPI) tool provides detailed illustrations and descriptions showing where to find serial number labels on Cisco products. It includes the following features:

- A search option that allows browsing for models using a tree-structured product hierarchy
- A search field on the final results page making it easier to look up multiple products
- Clear identification of end-of-sale products in results lists

The tool streamlines the process of locating serial number labels and identifying products. Serial number information expedites the entitlement process and is important for access to support services.

The Cisco Product Identification tool can be accessed at the following URL:

http://tools.cisco.com/Support/CPI/index.do

Cisco Product Accessibility

This product family leverages a command line interface (CLI). The CLI is 508 conformant since it is text based and relies on a keyboard for navigation. All functions of the router can be configured and monitored through the CLI.

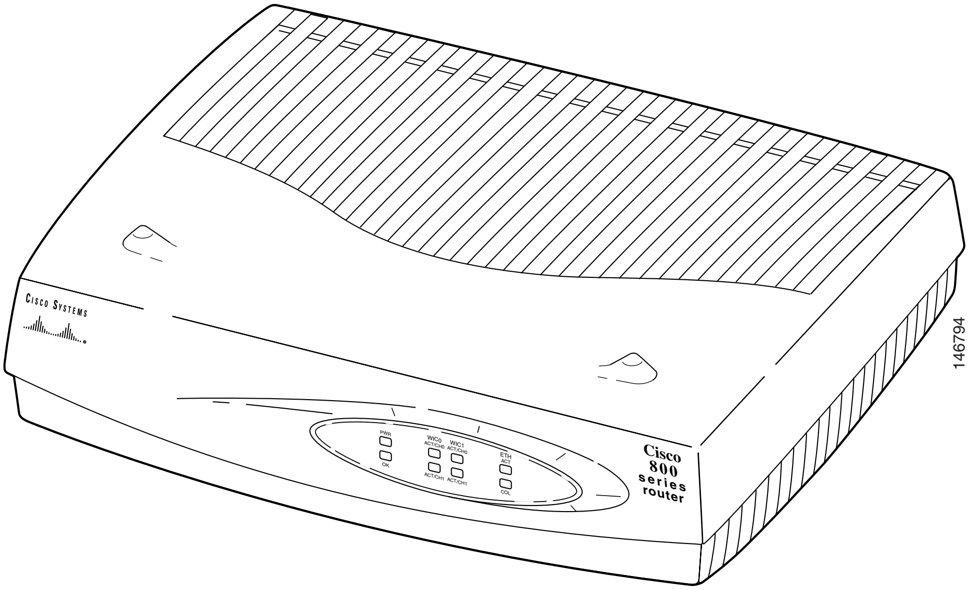
For a complete list of guidelines and Cisco products adherence to accessibility, see Cisco Accessibility Products at the following URL:

http://www.cisco.com/web/about/responsibility/accessibility/products

2 Overview

The Cisco 815 integrated services router (see Figure 1) is a small, modular desktop router that provides an integrated cable solution. The Cisco 815 integrated services router communicates over a cable hybrid fiber coaxial (HFC) network for office-to-Internet connectivity or branch-to-branch connectivity. The Cisco cable modem High-Performance WAN interface cards (HWICs) are installed in the router as a fixed configuration for one HWIC full-feature cable modem high-speed interaction, including quality of service (QoS) functionality.

Figure 1 Cisco 815 Integrated Services Router



Hardware Features

The Cisco 815 integrated services router has the following hardware features:

- One cable modem Data-Over-Cable Service Interface Specification (DOCSIS) port
- One 10/100 Fast Ethernet port
- Four 10/100BASE-TX Ethernet switch ports
- 32 MB of flash memory and 64 MB of DRAM (DRAM can be upgraded to 128 MB)
- 32 MB of NVRAM

Software Features

The Cisco 815 integrated services router has the following software features:

- Cisco IOS IP Base software image
- Cisco IOS advanced security software image available as a factory upgrade option
- Supports virtual private network (VPN) when upgraded
- Supports a maximum of 16 VLANs
- Supports DOCSIS 2.0, DOCSIS 1.1, and DOCSIS 1.0

3 Documents, Equipment, and Tools

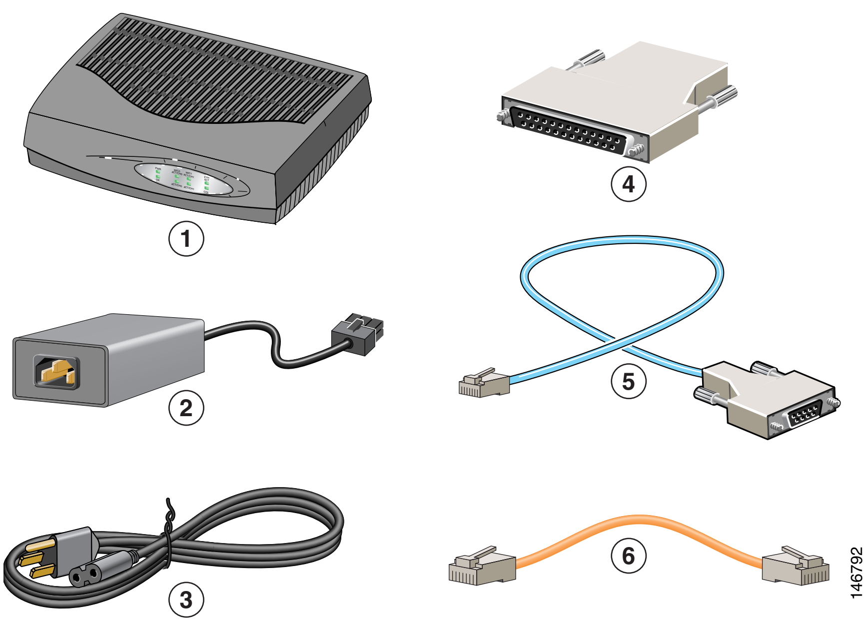
This section describes the documents, equipment, and tools included with the Cisco 815 integrated services router.

Items Included with the Cisco 815 Integrated Services Router

When you unpack the box containing your Cisco 815 integrated services router, you should find the following items:

- Power supply
- One DB-9-to-DB-25 modem adapter
- Power cable
- One RJ-45-to-DB-9 console cable
- One Ethernet cable
- Cisco.com card; Cisco product registration card
- Rubber chassis feet for desktop application
- Cisco Router and Security Device Manager CD
- *Regulatory Compliance and Safety Information for the Cisco 800 Series and SOHO Series Routers* document
- *Cisco 815 Integrated Services Router Cabling and Installation Quick Start Guide* (this document)

Figure 2 Items Included with the Cisco 815 Integrated Services Router



1	Cisco 815 integrated services router	**4**	DB-9 to DB-25 adapter
2	Power supply	**5**	Console cable (RJ-45 to DB-9)
3	Power cable	**6**	Ethernet cable

Items Not Included with the Cisco 815 Integrated Services Router

One or more items in this list may be required for your installation:

- PC running terminal emulation software, or a modem for remote administrative access
- Cable for cable-modem interface
- Cable ties
- Number-2 Phillips screwdriver

User Documentation

For complete platform documentation, see the following URL:

http://www.cisco.com/en/US/products/hw/routers/ps380/tsd_products_support_series_home.html

All the documents referenced in this quick start guide are available on Cisco.com. For information on accessing Cisco.com, see the "Where to Go Next" section on page 22. To view or print an online document in its original page format, click the PDF icon.

Translated Versions

Para obtener la versión en español de la Quick Start Guide (Guía rápida), visite la siguiente dirección:

http://www.cisco.com/en/US/products/hw/routers/ps380/tsd_products_support_series_home.html

简体中文版的“快速入门指南”，请到下列链接：

http://www.cisco.com/en/US/products/hw/routers/ps380/tsd_products_support_series_home.html

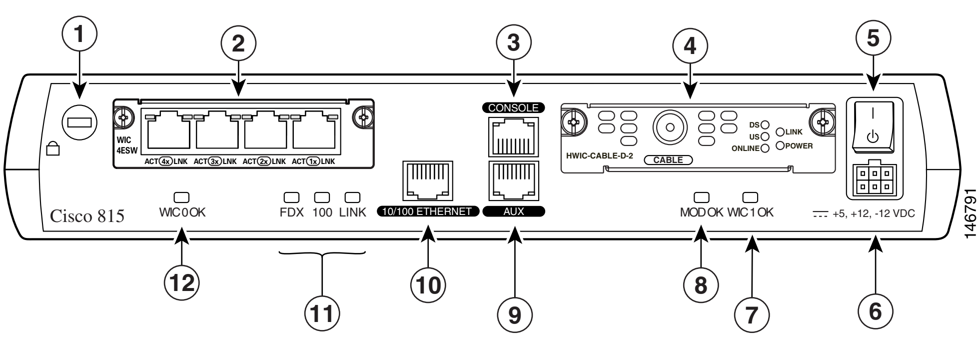
4 Ports and LEDs

This section describes the ports and LEDs on the Cisco 815 integrated services router.

Back Panel Ports and LEDs

This section describes the router back panel ports and LEDs. See Figure 3, Table 1, and Table 2.

Figure 3 Back Panel



1	Kensington-compatible locking socket	**7**	WIC 1 OK
2	WIC 0 slot	**8**	MOD OK LED
3	Console port	**9**	Auxiliary port

4	WIC 1 slot	**10**	10/100-Mbps Fast Ethernet port
5	Power switch	**11**	FDX, 100, and LINK LEDs
6	Power socket	**12**	WIC 0 OK LED

Table 1 Back Panel Connectors

Connector/Slot	Label/Color	Description
Fast Ethernet port	10/100 ETHERNET (yellow)	Connects the router to the local Ethernet network through this port. This port autosenses the speed (10 Mbps or 100 Mbps) and duplex mode (full- or half-) of the device to which it is connected and then operates at the same speed and duplex mode.
Auxiliary port	AUX (black)	Connects to a modem for remote configuration with Cisco IOS software.
Console port	CONSOLE (blue)	Connects to a terminal or PC for local configuration using Cisco IOS software.
WIC-4ESW	No label	Supports interface card with four 10/100-BASE-TX Ethernet switch ports. See Figure 4.
HWIC-CABLE-D-2	No label	Supports one Cisco cable WIC. See Figure 5.

Table 2 Back Panel LEDs

LED Label	Color	Description
WIC0 OK	Green	On when the WIC is correctly installed in the card slot. Two LEDS are associated with the WIC-4ESW: the right LED labeled LNK and the left LED labeled ACT. The LNK (physical layer link) LED is on when the Cisco IOS software recognizes the switch and the connection is up. The ACT (activity) LED indicates that data is being transmitted or received on the slot.
FDX	Green	On solid—Ethernet port is operating in full-duplex mode. Off—Ethernet port is operating in half-duplex mode.
100	Green	On solid—Ethernet port is operating at 100 Mbps. Off—Ethernet port is operating at 10 Mbps.
LINK	Green	On when the Ethernet link is up.
MOD OK	Green	On when the VPN hardware encryption module is installed and recognized by the Cisco IOS software.
WIC1 OK	Green	On when the WIC is correctly installed in the card slot.

Figure 4 WIC-4ESW

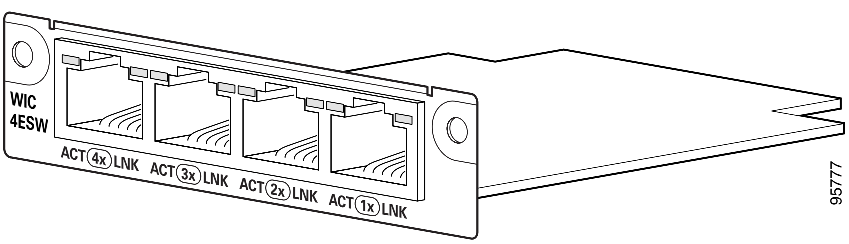
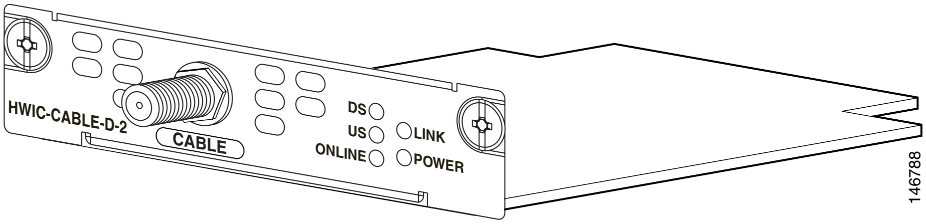


Figure 5 HWIC-CABLE-D-2



Front Panel LEDs

Use the router front panel LEDs to determine network activity and status on the Ethernet WIC ports. See Figure 6 and Table 3.

Figure 6 Front Panel LEDs

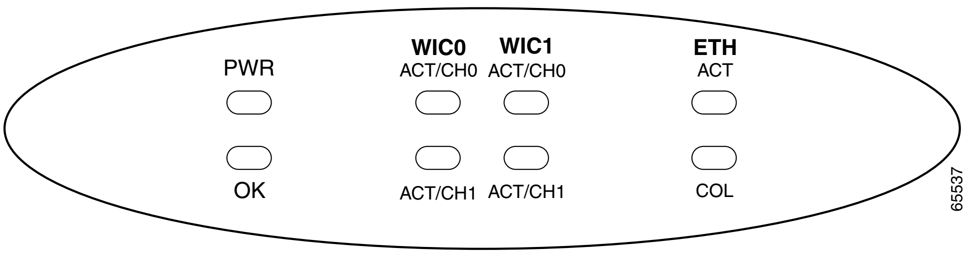


Table 3 Front Panel LEDs

LED Label	Color	Description
PWR	Green	On when DC power is being supplied to the router.
OK	Green	Blinks during the power-on self-test (POST). On when the router has successfully booted up and the software is functional.
WIC0		
ACT/CH0	Green	Blinks when data is being sent to or received from the port on the card in the WIC0 slot.
		2-port serial cards—Blinks when data is being sent to or received from the first port on the 2-port card in the WIC0 slot.
ACT/CH1	Green	Remains off.
		2-port serial cards—Blinks when data is being sent to or received from the second port on the 2-port card in the WIC0 slot.
WIC1		
ACT/CH0	Green	Blinks when data is being sent to or received from the port on the card in the WIC1 slot.
		2-port serial cards—Blinks when data is being sent to or received from the first port on the 2-port card in the WIC1 slot.
ACT/CH1	Green	Remains off.
		2-port serial cards—Blinks when data is being sent to or received from the second port on the 2-port card in the WIC1 slot.
ETH	N/A	N/A

Table 3 Front Panel LEDs (continued)

LED Label	Color	Description
ACT	Green	Blinks when there is network activity on the Ethernet port.
COL	Yellow	Blinks when there are packet collisions on the local Ethernet network.

5 Install the Router

Set the Cisco 815 integrated services router on a desktop or table. Attach the four rubber feet to the bottom of the chassis. For more detailed installation instructions, see the Cisco 815 integrated services router hardware installation documentation at the following URL:

http://www.cisco.com/en/US/products/hw/routers/ps380/prod_installation_guides_list.html

Safety Information

For safety information you must know before working on your Cisco router, see the *Regulatory Compliance and Safety Information for the Cisco 800 Series and SOHO Series Routers* document.

The *Regulatory Compliance and Safety Information for the Cisco 800 Series and SOHO Series Routers* document contains translations of the warnings that appear in this quick start guide.

Warnings and Cautions

When you install the Cisco 815 integrated services router, observe the warnings and precautions in this section.

In addition, for safety information you must know before working on your Cisco router, see the *Regulatory Compliance and Safety Information for Cisco 800 Series and SOHO Series Routers* document that accompanied this device. The *Regulatory Compliance and Safety Information* document also contains translations of the warnings that appear in this quick start guide.

Statement 1071—Warning Definition

Warning **IMPORTANT SAFETY INSTRUCTIONS**

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071

SAVE THESE INSTRUCTIONS

Waarschuwing **BELANGRIJKE VEILIGHEIDSINSTRUCTIES**

Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van de standaard praktijken om ongelukken te voorkomen. Gebruik het nummer van de verklaring onderaan de waarschuwing als u een vertaling van de waarschuwing die bij het apparaat wordt geleverd, wilt raadplegen.

BEWAAR DEZE INSTRUCTIES

Varoitus **TÄRKEITÄ TURVALLISUUSOHJEITA**

Tämä varoitusmerkki merkitsee vaaraa. Tilanne voi aiheuttaa ruumiillisia vammoja. Ennen kuin käsittelet laitteistoa, huomioi sähköpiirien käsittelemiseen liittyvät riskit ja tutustu onnettomuuksien yleisiin ehkäisytapoihin. Turvallisuusvaroitusten käännökset löytyvät laitteen mukana toimitettujen käännettyjen turvallisuusvaroitusten joukosta varoitusten lopussa näkyvien lausuntonumeroiden avulla.

SÄILYTÄ NÄMÄ OHJEET

Attention **IMPORTANTES INFORMATIONS DE SÉCURITÉ**

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers liés aux circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions des avertissements figurant dans les consignes de sécurité traduites qui accompagnent cet appareil, référez-vous au numéro de l'instruction situé à la fin de chaque avertissement.

CONSERVEZ CES INFORMATIONS

Warnung **WICHTIGE SICHERHEITSHINWEISE**

Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Verletzungen führen kann. Machen Sie sich vor der Arbeit mit Geräten mit den Gefahren elektrischer Schaltungen und den üblichen Verfahren zur Vorbeugung vor Unfällen vertraut. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung in den übersetzten Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.

BEWAHREN SIE DIESE HINWEISE GUT AUF.

Avvertenza **IMPORTANTI ISTRUZIONI SULLA SICUREZZA**

Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di intervenire su qualsiasi apparecchiatura, occorre essere al corrente dei pericoli relativi ai circuiti elettrici e conoscere le procedure standard per la prevenzione di incidenti. Utilizzare il numero di istruzione presente alla fine di ciascuna avvertenza per individuare le traduzioni delle avvertenze riportate in questo documento.

CONSERVARE QUESTE ISTRUZIONI

Advarsel **VIKTIGE SIKKERHETSINSTRUKSJONER**

Dette advarselssymbolet betyr fare. Du er i en situasjon som kan føre til skade på person. Før du begynner å arbeide med noe av utstyret, må du være oppmerksom på farene forbundet med elektriske kretser, og kjenne til standardprosedyrer for å forhindre ulykker. Bruk nummeret i slutten av hver advarsel for å finne oversettelsen i de oversatte sikkerhetsadvarslene som fulgte med denne enheten.

TA VARE PÅ DISSE INSTRUKSJONENE

Aviso **INSTRUÇÕES IMPORTANTES DE SEGURANÇA**

Este símbolo de aviso significa perigo. Você está em uma situação que poderá ser causadora de lesões corporais. Antes de iniciar a utilização de qualquer equipamento, tenha conhecimento dos perigos envolvidos no manuseio de circuitos elétricos e familiarize-se com as práticas habituais de prevenção de acidentes. Utilize o número da instrução fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham este dispositivo.

GUARDE ESTAS INSTRUÇÕES

¡Advertencia! **INSTRUCCIONES IMPORTANTES DE SEGURIDAD**

Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Al final de cada advertencia encontrará el número que le ayudará a encontrar el texto traducido en el apartado de traducciones que acompaña a este dispositivo.

GUARDE ESTAS INSTRUCCIONES

Varning! **VIKTIGA SÄKERHETSANVISNINGAR**

Denna varningssignal signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanliga förfaranden för att förebygga olyckor. Använd det nummer som finns i slutet av varje varning för att hitta dess översättning i de översatta säkerhetsvarningar som medföljer denna anordning.

SPARA DESSA ANVISNINGAR

Figyelem **FONTOS BIZTONSÁGI ELOÍRÁSOK**

Ez a figyelmezeto jel veszélyre utal. Sérülésveszélyt rejto helyzetben van. Mielott bármely berendezésen munkát végezte, legyen figyelemmel az elektromos áramkörök okozta kockázatokra, és ismerkedjen meg a szokásos balesetvédelmi eljárásokkal. A kiadványban szereplo figyelmeztetések fordítása a készülékhez mellékelt biztonsági figyelmeztetések között található; a fordítás az egyes figyelmeztetések végén látható szám alapján keresheto meg.

ORIZZE MEG EZEKET AZ UTASÍTÁSOKAT!

Предупреждение **ВАЖНЫЕ ИНСТРУКЦИИ ПО СОБЛЮДЕНИЮ ТЕХНИКИ БЕЗОПАСНОСТИ**

Этот символ предупреждения обозначает опасность. То есть имеет место ситуация, в которой следует опасаться телесных повреждений. Перед эксплуатацией оборудования выясните, каким опасностям может подвергаться пользователь при использовании электрических цепей, и ознакомьтесь с правилами техники безопасности для предотвращения возможных несчастных случаев. Воспользуйтесь номером заявления, приведенным в конце каждого предупреждения, чтобы найти его переведенный вариант в переводе предупреждений по безопасности, прилагаемом к данному устройству.

СОХРАНИТЕ ЭТИ ИНСТРУКЦИИ

警告 重要的安全性说明

此警告符号代表危险。您正处于可能受到严重伤害的工作环境中。在您使用设备开始工作之前，必须充分意识到触电的危险，并熟练掌握防止事故发生的标准工作程序。请根据每项警告结尾提供的声明号码来找到此设备的安全性警告说明的翻译文本。

请保存这些安全性说明

警告 安全上の重要な注意事項

「危険」の意味です。人身事故を予防するための注意事項が記述されています。装置の取り扱い作業を行うときは、電気回路の危険性に注意し、一般的な事故防止策に留意してください。警告の各国語版は、各注意事項の番号を基に、装置に付属の「Translated Safety Warnings」を参照してください。

これらの注意事項を保管しておいてください。

주의 중요 안전 지침

이 경고 기호는 위험을 나타냅니다. 작업자가 신체 부상을 일으킬 수 있는 위험한 환경에 있습니다. 장비에 작업을 수행하기 전에 전기 회로와 관련된 위험을 숙지하고 표준 작업 관례를 숙지하여 사고를 방지하십시오. 각 경고의 마지막 부분에 있는 경고문 번호를 참조하여 이 장치와 함께 제공되는 번역된 안전 경고문에서 해당 번역문을 찾으십시오.

이 지시 사항을 보관하십시오.

Aviso **INSTRUÇÕES IMPORTANTES DE SEGURANÇA**

Este símbolo de aviso significa perigo. Você se encontra em uma situação em que há risco de lesões corporais. Antes de trabalhar com qualquer equipamento, esteja ciente dos riscos que envolvem os circuitos elétricos e familiarize-se com as práticas padrão de prevenção de acidentes. Use o número da declaração fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham o dispositivo.

GUARDE ESTAS INSTRUÇÕES

Advarsel **VIGTIGE SIKKERHEDSANVISNINGER**

Dette advarselssymbol betyder fare. Du befinder dig i en situation med risiko for legemesbeskadigelse. Før du begynder arbejde på udstyr, skal du være opmærksom på de involverede risici, der er ved elektriske kredsløb, og du skal sætte dig ind i standardprocedurer til undgåelse af ulykker. Brug erklæringsnummeret efter hver advarsel for at finde oversættelsen i de oversatte advarsler, der fulgte med denne enhed.

GEM DISSE ANVISNINGER

تحذير **إرشادات الأمان الهامة**

يوضح رمز التحذير هذا وجود خطر. وهذا يعني أنك متواجد في مكان قد ينتج عنه التعرض لإصابات. قبل بدء العمل، احذر مخاطر التعرض للصدمات الكهربائية وكن على علم بالإجراءات القياسية للحيلولة دون وقوع أي حوادث. استخدم رقم البيان الموجود في أخر كل تحذير لتحديد مكان ترجمته داخل تحذيرات الأمان المترجمة التي تأتي مع الجهاز.

قم بحفظ هذه الإرشادات

Upozorenje **VAŽNE SIGURNOSNE NAPOMENE**

Ovaj simbol upozorenja predstavlja opasnost. Nalazite se u situaciji koja može prouzročiti tjelesne ozljede. Prije rada s bilo kojim uređajem, morate razumjeti opasnosti vezane uz električne sklopove, te biti upoznati sa standardnim načinima izbjegavanja nesreća. U prevedenim sigurnosnim upozorenjima, priloženima uz uređaj, možete prema broju koji se nalazi uz pojedino upozorenje pronaći i njegov prijevod.

SAČUVAJTE OVE UPUTE

Upozornění **DŮLEŽITÉ BEZPEČNOSTNÍ POKYNY**

Tento upozorňující symbol označuje nebezpečí. Jste v situaci, která by mohla způsobit nebezpečí úrazu. Před prací na jakémkoliv vybavení si uvědomte nebezpečí související s elektrickými obvody a seznamte se se standardními opatřeními pro předcházení úrazům. Podle čísla na konci každého upozornění vyhledejte jeho překlad v přeložených bezpečnostních upozorněních, která jsou přiložena k zařízení.

USCHOVEJTE TYTO POKYNY

Προειδοποίηση

ΣΗΜΑΝΤΙΚΕΣ ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ

Αυτό το προειδοποιητικό σύμβολο σημαίνει κίνδυνο. Βρίσκεστε σε κατάσταση που μπορεί να προκαλέσει τραυματισμό. Πριν εργαστείτε σε οποιοδήποτε εξοπλισμό, να έχετε υπόψη σας τους κινδύνους που σχετίζονται με τα ηλεκτρικά κυκλώματα και να έχετε εξοικειωθεί με τις συνήθεις πρακτικές για την αποφυγή ατυχημάτων. Χρησιμοποιήστε τον αριθμό δήλωσης που παρέχεται στο τέλος κάθε προειδοποίησης, για να εντοπίσετε τη μετάφρασή της στις μεταφρασμένες προειδοποιήσεις ασφαλείας που συνοδεύουν τη συσκευή.

ΦΥΛΑΞΤΕ ΑΥΤΕΣ ΤΙΣ ΟΔΗΓΙΕΣ

אזהרה

הוראות בטיחות חשובות

סימן אזהרה זה מסמל סכנה. אתה נמצא במצב העלול לגרום לפציעה. לפני שתעבוד עם ציוד כלשהו, עליך להיות מודע לסכנות הכרוכות במעגלים חשמליים ולהכיר את הנהלים המקובלים למניעת תאונות. השתמש במספר ההוראה המסופק בסופה של כל אזהרה כד לאתר את התרגום באזהרות הבטיחות המתורגמות שמצורפות להתקן.

שמור הוראות אלה

Opomena

ВАЖНИ БЕЗБЕДНОСНИ НАПАТСТВИЈА

Симболот за предупредување значи опасност. Се наоѓате во ситуација што може да предизвика телесни повреди. Пред да работите со опремата, бидете свесни за ризикот што постои кај електричните кола и треба да ги познавате стандардните постапки за спречување на несреќни случаи. Искористете го бројот на изјавата што се наоѓа на крајот на секое предупредување за да го најдете неговиот период во преведените безбедносни предупредувања што се испорачани со уредот.

ЧУВАЈТЕ ГИ ОВИЕ НАПАТСТВИЈА

Ostrzeżenie

WAŻNE INSTRUKCJE DOTYCZĄCE BEZPIECZEŃSTWA

Ten symbol ostrzeżenia oznacza niebezpieczeństwo. Zachodzi sytuacja, która może powodować obrażenia ciała. Przed przystąpieniem do prac przy urządzeniach należy zapoznać się z zagrożeniami związanymi z układami elektrycznymi oraz ze standardowymi środkami zapobiegania wypadkom. Na końcu każdego ostrzeżenia podano numer, na podstawie którego można odszukać tłumaczenie tego ostrzeżenia w dołączonym do urządzenia dokumencie z tłumaczeniami ostrzeżeń.

NINIEJSZE INSTRUKCJE NALEŻY ZACHOWAĆ

Upozornenie

DÔLEŽITÉ BEZPEČNOSTNÉ POKYNY

Tento varovný symbol označuje nebezpečenstvo. Nachádzate sa v situácii s nebezpečenstvom úrazu. Pred prácou na akomkoľvek vybavení si uvedomte nebezpečenstvo súvisiace s elektrickými obvodmi a oboznámte sa so štandardnými opatreniami na predchádzanie úrazom. Podľa čísla na konci každého upozornenia vyhľadajte jeho preklad v preložených bezpečnostných upozorneniach, ktoré sú priložené k zariadeniu.

USCHOVAJTE SI TENTO NÁVOD

Opozorilo **POMEMBNI VARNOSTNI NAPOTKI**

Ta opozorilni simbol pomeni nevarnost. Nahajate se v situaciji, kjer lahko pride do telesnih poškodb. Preden pričnete z delom na napravi, se morate zavedati nevarnosti udara električnega toka, ter tudi poznati preventivne ukrepe za preprečevanje takšnih nevarnosti. Uporabite obrazložitveno številko na koncu posameznega opozorila, da najdete opis nevarnosti v priloženem varnostnem priročniku.

SHRANITE TE NAPOTKE!

警告 重要安全性指示
此警告符號代表危險，表示可能造成人身傷害。使用任何設備前，請留心電路相關危險，並熟悉避免意外的標準作法。您可以使用每項警告後的聲明編號，查詢本裝置隨附之安全性警告譯文中的翻譯。
請妥善保留此指示

Warning **Before working on a system that has an on/off switch, turn OFF the power and unplug the power cord.** Statement 1

Warning **Ultimate disposal of this product should be handled according to all national laws and regulations.** Statement 1040

Warning **To prevent the system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of 40 deg.** Statement 1047

Caution To prevent damage to the chassis, never attempt to lift of tilt the chassis by the plastic panel on the front. Always hold the chassis by the metal body.

Caution To prevent damage to the chassis, never attempt to lift or tilt the chassis by the plastic panel on the front. Always hold the chassis by the metal body.

Caution Your chassis installation must allow unrestricted airflow for chassis cooling. For placing the router on a desktop, keep at least 1 inch (2.54 cm) of clear space beside the cooling inlet and exhaust vents.

Caution Do not place any items that weigh more than 10 pounds (4.5 kilograms) on top of the chassis, and do not stack routers on a desktop.

Caution There are no field-replaceable parts inside the router. Do not open the router enclosure to replace parts.

6 Connect to the Router

This section describes the procedures for cable connections.

Warning **Do not work on the system or connect or disconnect cables during periods of lightning activity.** Statement 1001

Warning **Read the installation instructions before connecting the system to the power source.** Statement 1004

Note The installation must comply with all required electrical codes applicable at the installation site.

Cable Connections

Warning **Hazardous network voltages are present in WAN ports regardless of whether power to the router is OFF or ON. To avoid electric shock, use caution when working near WAN ports. When detaching cables, detach the end away from the router first.** Statement 1026

Note One or two Ethernet cables are typically provided with the Cisco 815 integrated services router. Additional cables and transceivers can be ordered from Cisco. For ordering information, contact customer service. For cable pinouts, see the *Cisco Modular Access Router Cable Specifications* document.

Connecting the Router Console Port to a Terminal or PC

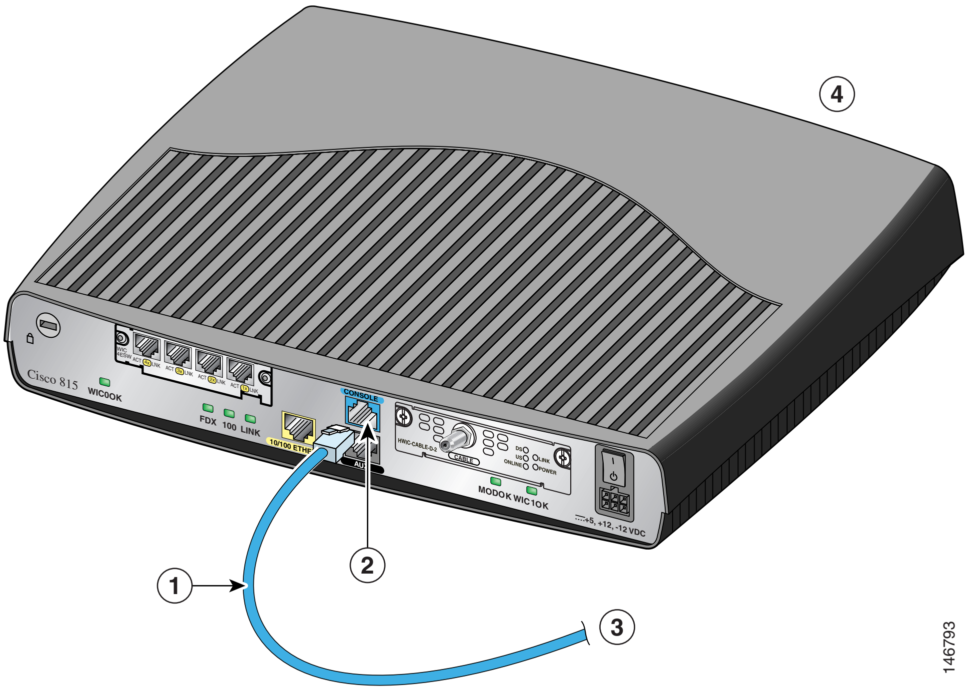
Follow these steps to connect the router to a terminal or PC:

Step 1 This step is required only if you want to use the Cisco IOS CLI to configure or troubleshoot the router. To use the Cisco IOS software, you must connect the router to a terminal or to a PC with terminal emulation software. Terminal emulation software should be configured with the following settings:

- 9600 bps
- 8 data bits
- No parity bits
- 1 stop bit

Step 2 Connect the RJ-45 end of the console cable to the CONSOLE port on the back panel of the router, as shown in Figure 7.

Figure 7 Connecting the Console Cable to the Router



1	Console cable	**3**	To PC or terminal
2	Console port	**4**	Cisco 815 integrated services router

Step 3 Connect the DB-9 end of the console cable to the serial port on your PC. If this connection does not fit your PC serial port, you must provide an adapter.

7 Interface Numbering

Table 4 summarizes interface numbering on a Cisco 815 integrated services router.

Table 4 Interface Numbering on Cisco 815 Integrated Services Router

Slot/Connector	Slot Type	Interface Numbering Notation
0	Cable modem (WIC 1)	c0
1	10/100 FastEthernet (built-in)	fa0
2	FastEthernet (WIC-4ESW in WIC 0)	fa1 fa2 fa3 fa4

8 Power Up the Router

This section provides the procedures for powering up your Cisco 815 integrated services router.

Caution To ensure adequate cooling, never operate the router unless the cover and all WICs and cover plates are installed.

Checklist for Power-Up

You are ready to power up the Cisco 815 integrated services router after the following steps are completed:

- Chassis is securely mounted and grounded. (See the "Install the Router" section on page 9.)
- Power and interface cables are connected. (See the "Connect to the Router" section on page 15.)
- PC with terminal emulation program is connected to the console port, powered up, and configured for 9600 bps, 8 data bits, 1 stop bit, no flow control, and no parity.
- Suitable PC COM port is selected in the terminal emulation program.

Note For initial power-up, a direct console connection is recommended. After the initial configuration is completed, a remote modem connection can be used for router management.

Powering Up the Router

Follow these steps to power up your Cisco 815 integrated services router and to verify that it goes through its initialization and self-test. After the router completes the self-test, it is ready to be configured.

Note Use the back panel LEDs during router installation to confirm that you have correctly connected all the cables to the router.

Note To view the boot sequence, you must have a console connection to the Cisco 815 integrated services router *before* it powers up.

Step 1 Make sure that your PC is powered up and connected as described in the "Checklist for Power-Up" section.

Step 2 Move the power switch to the ON position. The SYS PWR LED on the front of the chassis blinks green. The fans operate once the router reaches a threshold point temperature. If this does not happen, see the Troubleshooting module in the online Cisco 815 integrated services router hardware installation documentation at the following URL:

http://www.cisco.com/en/US/products/hw/routers/ps380/prod_installation_guides_list.html

Startup messages appear in your terminal emulation program window. When the startup messages end, the SYS PWR LED shows solid green.

Caution Do not press any keys on the keyboard until the messages stop and the SYS PWR LED is solid green. Any keys pressed during this time are interpreted as the first command typed when the messages stop, which might cause the router to power off and restart. It takes a few minutes for the messages to stop.

If you see the following messages, the router has booted with a configuration file and is ready for initial configuration using Cisco Router and Security Device Manager (Cisco SDM):

```
yourname con0 is now available
Press RETURN to get started.
```

Note Because Cisco SDM is installed on your router by default, we recommend using Cisco SDM to perform the initial configuration.

See the "Configure the Router Using Cisco Router and Security Device Manager" section on page 19 to learn how to configure your router using Cisco SDM, or how to obtain Cisco SDM and install it on your router.

Note If you do not have Cisco SDM on your router, and would like to use Cisco SDM, go to the following location for instructions on how to install it on your Cisco 815 series router:

http://www.cisco.com/go/sdm

If you see the following messages, the router has booted and is ready for initial configuration using the setup command facility or the command-line interface (CLI):

```
--- System Configuration Dialog ---

At any point you may enter a question mark '?' for help.
Use ctrl-c to abort configuration dialog at any prompt.
Default settings are in square brackets '[]'.

Would you like to enter the initial configuration dialog? [yes/no]:
```

To use the setup command facility and use the CLI to configure the router, see the "Setting Up the Initial Configuration Using the Setup Command Facility" and "Setting Up the Initial Configuration Using the Setup Command Facility" sections.

If the `rommon 1>` prompt appears, your system has booted in ROM monitor mode.

Verifying the Hardware Configuration

To display and verify the hardware features, enter the **show version** command. This command displays the system hardware version; the installed software version; the names and sources of configuration files; the boot images; and the amount of installed DRAM, NVRAM, and flash memory.

9 Perform Initial Configuration

This section provides the procedures for performing the initial configuration of your Cisco 815 integrated services router.

Configure the Router Using Cisco Router and Security Device Manager

Cisco Router and Security Device Manager (Cisco SDM) is a web-based configuration tool that allows you to configure LAN and WAN interfaces, routing, Network Address Translation (NAT), firewalls, VPNs, and other features on your router. If Cisco SDM is installed on your router, configure the router by following the instructions in the *Cisco Router and Security Device Manager Quick Start Guide*. If this document was not shipped with your router, you can obtain Cisco SDM and instructions for installing it on your router from the following location:

http://www.cisco.com/go/sdm

Note To obtain the Cisco SDM release notes, and other Cisco SDM documentation, go to http://www.cisco.com/go/sdm and click the Technical Documentation link.

Setting Up the Initial Configuration Using the Setup Command Facility

This section shows how to use the setup command facility to configure a hostname for the Cisco 815 integrated services router, to set passwords, and to configure an interface for communication with the management network. If the following messages appear at the end of the startup sequence, the setup command facility has been invoked automatically:

```
--- System Configuration Dialog ---

At any point you may enter a question mark '?' for help.
Use ctrl-c to abort configuration dialog at any prompt.
Default settings are in square brackets '[]'.

Would you like to enter the initial configuration dialog? [yes/no]:
```

The setup command facility prompts you for basic information about your Cisco 815 integrated services router and network, and it creates an initial configuration file. After the configuration file is created, you can use the CLI or Cisco Router and Security Device Manager (Cisco SDM) to perform additional configuration.

The prompts in the setup command facility vary with the installed interface modules and the software image. The following example and the user entries (in **bold**) are shown as examples only.

For help with interface and port numbering, see the "Interface Numbering" section on page 17.

Note If you make a mistake while using the setup command facility, you can exit and run the setup command facility again. Press **Ctrl-C**, and type **setup** at the privileged EXEC mode prompt (`Router#`).

Step 1 To proceed using the setup command facility, enter **yes** when the power-up messages have ended.

```
Would you like to enter the initial configuration dialog? [yes/no]: yes
```

Note If these messages do not appear, Cisco SDM and a default configuration file were installed on the router at the factory. To use Cisco SDM to configure the router, see the "Configure the Router Using Cisco Router and Security Device Manager" section on page 19.

Step 2 When the following messages appear, press **Return** to enter basic management setup:

```
At any point you may enter a question mark '?' for help.
Use ctrl-c to abort configuration dialog at any prompt.
Default settings are in square brackets '[]'.

Basic management setup configures only enough connectivity
for management of the system, extended setup will ask you
to configure each interface on the system

Would you like to enter basic management setup? [yes/no]: yes
```

Step 3 Enter a hostname for the Cisco 815 integrated services router (this example uses **Router**):

```
Configuring global parameters:

Enter host name [Router]: Router
```

Step 4 Enter an enable secret password. This password is encrypted (more secure) and cannot be seen when you view the configuration:

```
The enable secret is a password used to protect access to
privileged EXEC and configuration modes. This password, after
entered, becomes encrypted in the configuration.
Enter enable secret: xxxxxx
```

Step 5 Enter an enable password that is different from the enable secret password. This password is *not* encrypted (less secure) and can be seen when you view the configuration:

```
The enable password is used when you do not specify an
```

```
enable secret password, with some older software versions, and
some boot images.
Enter enable password: xxxxxx
```

Step 6 Enter the virtual terminal password, which prevents unauthenticated access to the Cisco 815 integrated services router through ports other than the console port:

```
The virtual terminal password is used to protect
access to the router over a network interface.
Enter virtual terminal password: xxxxxx
```

Step 7 Respond to the following prompts as appropriate for your network:

```
Configure SNMP Network Management? [yes]:
    Community string [public]:
```

A summary of the available interfaces appears:

```
Current interface summary

Controller Timeslots D-Channel Configurable modes Status

Any interface listed with OK? value "NO" does not have a valid configuration

Interface                  IP-Address      OK? Method Status                Protocol
```

Step 8 Choose one of the available interfaces to connect the Cisco 815 integrated services router to the management network:

```
Enter interface name used to connect to the
management network from the above interface summary: 0/0
```

Step 9 Respond to the following prompts as appropriate for your network:

```
Configuring interface FastEthernet0/0:
Use the 100 Base-TX (RJ-45) connector? [yes]: yes
Operate in full-duplex mode? [no]: no
Configure IP on this interface? [yes]: yes
    IP address for this interface: 172.1.2.3
    Subnet mask for this interface [255.255.0.0] : 255.255.0.0
    Class B network is 172.1.0.0, 16 subnet bits; mask is /16
```

Step 10 The configuration is displayed:

```
The following configuration command script was created:

hostname Router
enable secret 5 $1$D5P6$PYx41/lQIASK.HcSbfO5q1
enable password xxxxxx
line vty 0 4
password xxxxxx
snmp-server community public
!
no ip routing

!
interface Ethernet1/0
no shutdown
media-type 100BaseX
half-duplex
ip address 172.1.2.3 255.255.0.0
!
interface Ethernet1/1
shutdown
no ip address
!
end
```

Step 11 Respond to the following prompts. Choose [2] to save the initial configuration:

```
[0] Go to the IOS command prompt without saving this config.
```

```
[1] Return back to the setup without saving this config.
[2] Save this configuration to nvram and exit.

Enter your selection [2]: 2
Building configuration...
Use the enabled mode 'configure' command to modify this configuration.


Press RETURN to get started!
```

The user prompt appears:

```
Router>
```

Verifying the Initial Configuration

To verify that the new interfaces are operating correctly, enter the following commands:

- **show interfaces—**Verifies that the interfaces are operating correctly and that the interfaces and line protocol are in the correct state—up or down.
- **show ip interface brief—**Displays a summary status of the interfaces configured for IP.
- **show configuration—**Verifies that you configured the correct hostname and password.

After you complete and verify the initial configuration, your Cisco 815 integrated services router is ready to be configured for specific functions. See the "Where to Go Next" section on page 22 for information about locating documentation for advanced configuration procedures.

10 Where to Go Next

For additional configuration procedures, see the appropriate Cisco 815 integrated services router documentation or Cisco IOS software documentation, available online on Cisco.com.

Tip See the "Obtaining Additional Publications and Information" section on page 26 for help in locating these documents.

To access documentation on Cisco.com:

For Cisco 815 integrated services router platform documentation, begin at Cisco.com at http://www.cisco.com, and choose **Technical Support & Documentation> Documentation > Routers > Cisco 800 Series Routers >** *Cisco 815 Integrated Services Router document type* > *Document*.

For Cisco IOS software documentation, begin at Cisco.com at **http://www.cisco.com**, and choose **Products & Solutions > Cisco IOS Software > Latest Releases >** *Your Cisco IOS software release*.

For updated information about platform support for features, access Feature Navigator II at http://www.cisco.com/go/fn. (This requires a registered account on Cisco.com.)

To access documentation using Cisco Connection Online (CCO):

For Cisco 815 integrated services router platform documentation, begin at Cisco.com at http://www.cisco.com, and click the **Technical Support and Documentation** link. Click the Former Technical Documentation site link, and navigate to Modular Access Routers and to the documentation for your router.

For Cisco IOS software documentation, begin at Cisco.com at http://www.cisco.com, and click the **Technical Support and Documentation** link. Click the Former Technical Documentation site link and navigate to the Cisco IOS software documentation for the Cisco IOS software release that is installed on your router.

11 Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation at this URL:

http://www.cisco.com/techsupport

You can access the Cisco website at this URL:

http://www.cisco.com

You can access international Cisco websites at this URL:

http://www.cisco.com/public/countries_languages.shtml

Product Documentation DVD

The Product Documentation DVD is a comprehensive library of technical product documentation on a portable medium. The DVD enables you to access multiple versions of installation, configuration, and command guides for Cisco hardware and software products. With the DVD, you have access to the same HTML documentation that is found on the Cisco website without being connected to the Internet. Certain products also have .PDF versions of the documentation available.

The Product Documentation DVD is available as a single unit or as a subscription. Registered Cisco.com users (Cisco direct customers) can order a Product Documentation DVD (product number DOC-DOCDVD= or DOC-DOCDVD=SUB) from Cisco Marketplace at this URL:

http://www.cisco.com/go/marketplace/

Ordering Documentation

Registered Cisco.com users may order Cisco documentation at the Product Documentation Store in the Cisco Marketplace at this URL:

http://www.cisco.com/go/marketplace/

Nonregistered Cisco.com users can order technical documentation from 8:00 a.m. to 5:00 p.m. (0800 to 1700) PDT by calling 1 866 463-3487 in the United States and Canada, or elsewhere by calling 011 408 519-5055. You can also order documentation by e-mail at tech-doc-store-mkpl@external.cisco.com or by fax at 1 408 519-5001 in the United States and Canada, or elsewhere at 011 408 519-5001.

12 Documentation Feedback

You can rate and provide feedback about Cisco technical documents by completing the online feedback form that appears with the technical documents on Cisco.com.

You can submit comments about Cisco documentation by using the response card (if present) behind the front cover of your document or by writing to the following address:

Cisco Systems
Attn: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

13 Cisco Product Security Overview

Cisco provides a free online Security Vulnerability Policy portal at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html

From this site, you will find information about how to:

- Report security vulnerabilities in Cisco products.
- Obtain assistance with security incidents that involve Cisco products.
- Register to receive security information from Cisco.

A current list of security advisories, security notices, and security responses for Cisco products is available at this URL:

http://www.cisco.com/go/psirt

To see security advisories, security notices, and security responses as they are updated in real time, you can subscribe to the Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed. Information about how to subscribe to the PSIRT RSS feed is found at this URL:

http://www.cisco.com/en/US/products/products_psirt_rss_feed.html

Reporting Security Problems in Cisco Products

Cisco is committed to delivering secure products. We test our products internally before we release them, and we strive to correct all vulnerabilities quickly. If you think that you have identified a vulnerability in a Cisco product, contact PSIRT:

- For Emergencies only—security-alert@cisco.com

  An emergency is either a condition in which a system is under active attack or a condition for which a severe and urgent security vulnerability should be reported. All other conditions are considered nonemergencies.

- For Nonemergencies—psirt@cisco.com

In an emergency, you can also reach PSIRT by telephone:

- 1 877 228-7302
- 1 408 525-6532

Tip We encourage you to use Pretty Good Privacy (PGP) or a compatible product (for example, GnuPG) to encrypt any sensitive information that you send to Cisco. PSIRT can work with information that has been encrypted with PGP versions 2.x through 9.x.

Never use a revoked or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one linked in the Contact Summary section of the Security Vulnerability Policy page at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html

The link on this page has the current PGP key ID in use.

If you do not have or use PGP, contact PSIRT at the aforementioned e-mail addresses or phone numbers before sending any sensitive material to find other means of encrypting the data.

14 Obtaining Technical Assistance

Cisco Technical Support provides 24-hour-a-day award-winning technical assistance. The Cisco Technical Support & Documentation website on Cisco.com features extensive online support resources. In addition, if you have a valid Cisco service contract, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not have a valid Cisco service contract, contact your reseller.

Cisco Technical Support & Documentation Website

The Cisco Technical Support & Documentation website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day, at this URL:

http://www.cisco.com/techsupport

Access to all tools on the Cisco Technical Support & Documentation website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

http://tools.cisco.com/RPF/register/register.do

Note Use the Cisco Product Identification (CPI) tool to locate your product serial number before submitting a web or phone request for service. You can access the CPI tool from the Cisco Technical Support & Documentation website by clicking the **Tools & Resources** link under Documentation & Tools. Choose **Cisco Product Identification Tool** from the Alphabetical Index drop-down list, or click the **Cisco Product Identification Tool** link under Alerts & RMAs. The CPI tool offers three search options: by product ID or model name; by tree view; or for certain products, by copying and pasting **show** command output. Search results show an illustration of your product with the serial number label location highlighted. Locate the serial number label on your product and record the information before placing a service call.

Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool provides recommended solutions. If your issue is not resolved using the recommended resources, your service request is assigned to a Cisco engineer. The TAC Service Request Tool is located at this URL:

http://www.cisco.com/techsupport/servicerequest

For S1 or S2 service requests, or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)
EMEA: +32 2 704 55 55
USA: 1 800 553-2447

For a complete list of Cisco TAC contacts, go to this URL:

http://www.cisco.com/techsupport/contacts

Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—An existing network is down, or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operations are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Severity 3 (S3)—Operational performance of the network is impaired, while most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

15 Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- The *Cisco Product Quick Reference Guide* is a handy, compact reference tool that includes brief product overviews, key features, sample part numbers, and abbreviated technical specifications for many Cisco products that are sold through channel partners. It is updated twice a year and includes the latest Cisco offerings. To order and find out more about the Cisco Product Quick Reference Guide, go to this URL:

  http://www.cisco.com/go/guide
- Cisco Marketplace provides a variety of Cisco books, reference guides, documentation, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL:

  http://www.cisco.com/go/marketplace/
- *Cisco Press* publishes a wide range of general networking, training and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press at this URL:

  http://www.ciscopress.com
- *Packet* magazine is the Cisco Systems technical user magazine for maximizing Internet and networking investments. Each quarter, Packet delivers coverage of the latest industry trends, technology breakthroughs, and Cisco products and solutions, as well as network deployment and troubleshooting tips, configuration examples, customer case studies, certification and training information, and links to scores of in-depth online resources. You can access Packet magazine at this URL:

  http://www.cisco.com/packet78-17436-03
- *iQ Magazine* is the quarterly publication from Cisco Systems designed to help growing companies learn how they can use technology to increase revenue, streamline their business, and expand services. The publication identifies the challenges facing these companies and the technologies to help solve them, using real-world case studies and business strategies to help readers make sound technology investment decisions. You can access iQ Magazine at this URL:

  http://www.cisco.com/go/iqmagazine

  or view the digital edition at this URL:

  http://ciscoiq.texterity.com/ciscoiq/sample/
- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

  http://www.cisco.com/ipj
- Networking products offered by Cisco Systems, as well as customer support services, can be obtained at this URL:

  http://www.cisco.com/en/US/products/index.html
- Networking Professionals Connection is an interactive website for networking professionals to share questions, suggestions, and information about networking products and technologies with Cisco experts and other networking professionals. Join a discussion at this URL:

  http://www.cisco.com/discuss/networking
- World-class networking training is available from Cisco. You can view current offerings at this URL:

  http://www.cisco.com/en/US/learning/index.html

CISCO SYSTEMS

Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters
Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: 31 0 20 357 1000
Fax: 31 0 20 357 1100

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters
Cisco Systems, Inc.
168 Robinson Road
#28-01 Capital Tower
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

Cisco Systems has more than 200 offices in the following countries. Addresses, phone numbers, and fax numbers are listed on the

Cisco Website at www.cisco.com/go/offices

Argentina • Australia • Austria • Belgium • Brazil • Bulgaria • Canada • Chile • China PRC • Colombia • Costa Rica • Croatia • Cyprus • Czech Republic • Denmark Dubai, UAE • Finland • France • Germany • Greece • Hong Kong SAR • Hungary • India • Indonesia • Ireland • Israel • Italy • Japan • Korea • Luxembourg • Malaysia Mexico • The Netherlands • New Zealand • Norway • Peru • Philippines • Poland • Portugal • Puerto Rico • Romania • Russia • Saudi Arabia • Scotland • Singapore Slovakia • Slovenia • South Africa • Spain • Sweden • Switzerland • Taiwan • Thailand • Turkey • Ukraine • United Kingdom • United States • Venezuela • Vietnam • Zimbabwe

Printed in the USA on recycled paper containing 10% postconsumer waste.

78-17436-03
DOC-7817436=